Serum chemokine profiles in patients with alopecia areata

The role of chemokines was studied in patients with alopecia areata (AA) and correlated with disease activity. Serum samples from 85 patients with AA, 20 patients with atopic dermatitis, 20 patients with psoriasis vulgaris and 28 normal controls were examined by the cytometric bead array assay assessing MIG, RANTES, IL-8, MCP-1, MIP-1α, MIP-1β and eotaxin levels. Secreted chemokine levels from peripheral blood mononuclear cells (PBMC) of patients with AA were also investigated. Serum MIG, RANTES, IL-8 and eotaxin levels were selectively increased in patients with AA compared with normal controls. Levels of MIG, RANTES and IL-8 secreted from PBMC of patients with AA were also increased. Elevated serum MIG and RANTES levels significantly correlated with the disease activity. RANTES levels were not associated with a predisposition to atopy. MIG and RANTES may play an important role in the development of AA and may prove to be useful as markers of the disease activity and as therapeutic targets. Br J Dermatol 2007; 157:466–73

Mite-related bacterial antigens stimulate inflammatory cells in rosacea

The role of Demodex folliculorum mites in the pathogenesis of rosacea is controversial. Selective antibiotics are effective in reducing the inflammatory changes of papulopustular rosacea, but their mode of action is unknown. Lacey et al. investigated whether a D. folliculorum-related bacterium was capable of expressing antigens that could stimulate an inflammatory immune response in patients with rosacea. A bacterium (Bacillus oleronius) was isolated from a D. folliculorum mite extracted from the face of a patient with papulopustular rosacea. This bacterium produced antigen(s) capable of preferentially stimulating peripheral blood mononuclear cells proliferation in 15.6% of 73% patients with rosacea but only five of 17 (29%) control subjects (P = 0.0105). They were able to demonstrate immunoreactivity in sera of patients with rosacea to two proteins of size 62 and 83 kDa. No immunoreactivity to these proteins was recorded when probing with sera from control patients. Antigenic proteins related to a bacterium (B. oleronius), isolated from a D. folliculorum mite, have the potential to stimulate an inflammatory response in patients with rosacea. Br J Dermatol 2007; 157:474–81

Topical treatment of nail diseases

Topical treatment of nail diseases is hampered by the nail plate barrier, which prevents penetration of antifungal agents. Finnen and colleagues have studied whether acidified nitrite can penetrate the nail barrier and cure onychomycosis in 13 patients with culture-positive onychomycosis, and have determined whether nitrosospecies can bind to the nail plate. Nails were treated with a mixture of sodium nitrite and citric acid at two different doses. Immunohistochemistry, ultraviolet-visible absorbance spectroscopy and serial chemical reduction of nitrosospecies followed by chemiluminescent detection of NO were used to measure nitrosospecies. Acidified nitrite-treated nails and the nitrosothiols S-nitrosopenicillamine (SNAP) and S-nitrosoglutathione (GSNO) were added to Trichophyton rubrum and T. mentagrophytes cultures in liquid Saboraud medium and growth measured. S-nitrosothiols were formed in the nail following a single treatment of low- or high-dose sodium nitrite and citric acid. Repeated exposure to high-dose acidified nitrite led to additional formation of N-nitrosamines. S-nitrosothiol formation caused the nail to become antifungal to T. rubrum and T. mentagrophytes. Antifungal activity was Cu2+ sensitive. The NO donor nitrosothiols SNAP and GSNO were also found to be antifungal. Topical acidified nitrite treatment of patients with onychomycosis resulted in > 90% becoming culture negative for T. rubrum. Acidified nitrite exploits the nature of the nail barrier and utilizes it as a means of delivery of NO/nitrosothiol-mediated antifungal activity. Thus the principal obstacle to therapy in the nail becomes an effective delivery mechanism. Br J Dermatol 2007; 157: 494–500

No association between tetracycline class antibiotics used for acne vulgaris and lupus erythematosus

The association between minocycline use for the treatment of acne and drug-induced lupus erythematosus (LE) is well known. Margolis et al. have looked to see if this is true of other tetracyclines used in treating acne. They studied a retrospective cohort of individuals aged 15–35 years with acne within the practices of the general practice physicians in the U.K. who participated in The Health Information Network: 97,694 subjects with acne were followed for 520,000 person-years. They were on average about 22 years old and 57.5% were female. Minocycline exposure was noted in 24.8% of subjects, doxycycline exposure in 15.6%, other tetracyclines in 42.3%, and 17.3% had not received a tetracycline antibiotic. The overall hazard ratio for the association of minocycline to LE was 2.64 (95% confidence interval 1.51–4.66) and when adjusted for age and gender was 3.11 (1.77–5.48). Those affected were often treated for LE. No association was noted for doxycycline and the other tetracyclines. Br J Dermatol 2007; 157: 540–6

Chronic hepatitis B reactivation and systemic corticosteroid therapy

Treating patients with immunobullous diseases with high-dose corticosteroids can be very hazardous. Reactivation of chronic hepatitis B virus (HBV) infection should be added to the list of potential fatal complications. Yang et al. report four HBV carriers with viral hepatitis flare who were identified from a retrospectively identified cohort of 98 patients receiving at least 6 months of systemic corticosteroids. Two patients suffered fulminant hepatitis and died, while the remaining two patients experienced recurrent hepatitis flare following antiviral medication. The mean time from the start of corticosteroids to the time of HBV reactivation was 10.5 months. The authors recommend screening for serum hepatitis B markers before systemic corticosteroid therapy is initiated Br J Dermatol 2007; 157: 587–90